

EXPERT REPORT OF DR. RUSSELL T. WARNE

I respectfully submit this expert report to the court in the matter of the legal dispute between Dr. Bryan J. Pesta and Cleveland State University Board of Trustees, et al, Northern District of Ohio Case No, 23-cv-00546. My report is to discuss the context, scientific value, and quality of Dr. Pesta's research, focusing on the article "Global Ancestry and Cognitive Ability," hereafter referred to as the Lasker et al. (2019) article.¹ In short, my view is that the article addresses a legitimate scientific topic using an accepted methodology to test a falsifiable hypothesis. Moreover, my perspective is that Dr. Pesta should be commended for the Lasker et al. (2019) article and not sanctioned in any way.

A. My Credentials

I am an educational psychologist who is a researcher on human intelligence, intelligence tests, IQ scores, and academic giftedness. I have published 43 peer-reviewed scholarly articles on these topics; in the last 10 years, my peer-reviewed scholarly articles on these topics has appeared in the scholarly journals *Intelligence*,^{2,3,4,5} *The American Journal of Psychology*,^{6,7}

¹ The full citation to the article is Lasker, J., Pesta, B. J., Fuerst, J. G. R., & Kirkegaard, E. O. W. (2019). Global ancestry and cognitive ability. *Psych*, 1(1), 431-459. <https://doi.org/10.3390/psych1010034>

² Warne, R. T. (2016). Testing Spearman's hypothesis with Advanced Placement examination data. *Intelligence*, 57, 87-95. <https://doi.org/10.1016/j.intell.2016.05.002>

³ Warne, R. T. (2019). [Review of *Cognitive capitalism: Human capital and the wellbeing of nations*, by H. Rindermann]. *Intelligence*, 73, 63-64. <https://doi.org/10.1016/j.intell.2019.02.001>

⁴ Gibbons, A., & Warne, R. T. (2019). First publication of subtests in the Stanford-Binet 5, WAIS-IV, WISC-V, and WPPSI-IV. *Intelligence*, 75, 9-18. <https://doi.org/10.1016/j.intell.2019.02.005>

⁵ Warne, R. T., Larsen, R. A. A., & Clark, J. (2020). Low base rates and a high IQ selection threshold prevented Terman from identifying future Nobelists. *Intelligence*, 82, Article 101488. <https://doi.org/10.1016/j.intell.2020.101488>

⁶ Warne, R. T. (2020). Crossing the Rubicon from the social to the biological sciences [Review of the book *Human diversity: The biology of gender, race, and class*, by C. Murray]. *The American Journal of Psychology*, 133(4), 536-543. <https://doi.org/10.5406/amerjpsyc.133.4.0536>

⁷ Warne, R. T. (2021). Between-group mean differences in intelligence in the United States are >0% genetically caused: Five converging lines of evidence. *The American Journal of Psychology*, 134(4), 480-501. <https://doi.org/10.5406/amerjpsyc.134.4.0479>

Psychological Bulletin,⁸ *The Journal of Educational Research*,⁹ *Educational Researcher*,¹⁰ the *Journal of School Psychology*,¹¹ *Learning and Instruction*,¹² *Evolutionary Psychological Science*,¹³ *PLOS One*,^{14,15} the *Journal of Psychoeducational Assessment*,^{16,17} *Gifted Child Quarterly*,^{18,19,20} the *Archives of Scientific Psychology*,²¹ *Cultural Diversity and Ethnic Minority*

⁸ Warne, R. T., & Burningham, C. (2019). Spearman's g found in 31 non-Western nations: Strong evidence that g is a universal phenomenon. *Psychological Bulletin*, 145(3), 237-272. <https://doi.org/10.1037/bul0000184>

⁹ Warne, R. T., Larsen, R., Anderson, B., & Odasso, A. J. (2015). The impact of participation in the Advanced Placement program on students' college admissions test scores. *The Journal of Educational Research*, 108(5), 400-416. <https://doi.org/10.1080/00220671.2014.917253>

¹⁰ Warne, R. T., Sonnert, G., & Sadler, P. M. (2019). The relationship between Advanced Placement mathematics courses and students' STEM career interest. *Educational Researcher*, 48(2), 101-111. <https://doi.org/10.3102/0013189x19825811>

¹¹ Warne, R. T. (2017). Possible economic benefits of full-grade acceleration. *Journal of School Psychology*, 65, 54-68. <https://doi.org/10.1016/j.jsp.2017.07.001>

¹² Warne, R. T., & Liu, J. K. (2017). Income differences among grade skippers and non-grade skippers across genders in the Terman sample, 1936–1976. *Learning and Instruction*, 47, 1-12. <https://doi.org/10.1016/j.learninstruc.2016.10.004>

¹³ Warne, R. T. (2023). National mean IQ estimates: Validity, data quality, and recommendations. *Evolutionary Psychological Science*, 9(2), 197-223. <https://doi.org/10.1007/s40806-022-00351-y>

¹⁴ Warne, R. T., Golightly, S., & Black, M. (2021). Factor structure of intelligence and divergent thinking subtests: A registered report. *PLoS ONE*, 16(5), Article e0251268. <https://doi.org/10.1371/journal.pone.0251268>

¹⁵ Warne, R. T., Golightly, S., & Black, M. (2022). Factor structure of intelligence and divergent thinking subtests: A registered report. *PLoS ONE*, 17(9), Article e0274921. <https://doi.org/10.1371/journal.pone.0274921>

¹⁶ Warne, R. T. (2015). Test review: Cognitive Abilities Test, Form 7 (CogAT7). *Journal of Psychoeducational Assessment*, 33, 188-192. <https://doi.org/10.1177/0734282914548324>

¹⁷ Warne, R. T., Doty, K. J., Malbica, A. M., Angeles, V. R., Innes, S., Hall, J., & Masterson-Nixon, K. (2016). Above-level test item functioning across examinee age groups. *Journal of Psychoeducational Assessment*, 34(1), 54-72. <https://doi.org/10.1177/0734282915584851>

¹⁸ Warne, R. T. (2016). Five reasons to put the g back into giftedness: An argument for applying the Cattell–Horn–Carroll theory of intelligence to gifted education research and practice. *Gifted Child Quarterly*, 60(1), 3-15. <https://doi.org/10.1177/0016986215605360>

¹⁹ Warne, R. T. (2019). An evaluation (and vindication?) of Lewis Terman: What the father of gifted education can teach the 21st century. *Gifted Child Quarterly*, 63(1), 3-21. <https://doi.org/10.1177/0016986218799433>

²⁰ Warne, R. T. (2022). Analyzing disproportionate representation in gifted education: Identification procedures, proximal causes, distal causes, and theoretical causes. *Gifted Child Quarterly*, 66(2), 98-100. <https://doi.org/10.1177/00169862211037943>

²¹ Warne, R. T., Astle, M. C., & Hill, J. C. (2018). What do undergraduates learn about human intelligence? An analysis of introductory psychology textbooks. *Archives of Scientific Psychology*, 6(1), 32-50. <https://doi.org/10.1037/arc0000038>

Psychology,²² the *Journal of Advanced Academics*,^{23,24,25} the *Journal for the Education of the Gifted*,^{26,27} *Gifted and Talented International*,²⁸ *Teaching of Psychology*,²⁹ *SAGE Open*,³⁰ *Teaching Exceptional Children*,³¹ the *Journal of Intelligence*,³² *Mankind Quarterly*,³³ and *New Educational Foundations*.³⁴ Some of these journals rank among the most prestigious scholarly periodicals in psychology and education. Additionally, I am the author of *In the Know: Debunking 35 Myths About Human Intelligence*, a book published by Cambridge University Press.³⁵ I am a member of the editorial board for the scholarly journal *Intelligence*, and previously I was on the editorial boards for the *Journal of School Psychology*, *Gifted Child Quarterly*, and the *Journal of Psychoeducational Assessment*. I was also the associate editor of

²² Warne, R. T., Yoon, M., & Price, C. J. (2014). Exploring the various interpretations of “test bias”. *Cultural Diversity and Ethnic Minority Psychology*, 20(4), 570-582. <https://doi.org/10.1037/a0036503>

²³ Warne, R. T. (2016). A welcomed intrusion: A response to Card and Giuliano’s evaluation of a gifted program. *Journal of Advanced Academics*, 27(2), 65-72. <https://doi.org/10.1177/1932202x15627478>

²⁴ Warne, R. T. (2022). No strong evidence of stereotype threat in females: A reassessment of the Picho-Kiroga et al. (2021) meta-analysis. *Journal of Advanced Academics*, 33(2), 171-186. <https://doi.org/10.1177/1932202x211061517>

²⁵ Warne, R. T., & Larsen, R. A. A. (2022). School integration limits the ability of local norms to diversify gifted programs: A mathematical analysis with implications related to the achievement gap. *Journal of Advanced Academics*, 33(2), 275-309. <https://doi.org/10.1177/1932202x211069078>

²⁶ Warne, R. T., & Price, C. J. (2016). A single case study of the impact of policy changes on identification for gifted programs. *Journal for the Education of the Gifted*, 39(1), 49-61. <https://doi.org/10.1177/0162353215624159>

²⁷ Warne, R. T., & Burton, J. Z. (2020). Beliefs about human intelligence in a sample of teachers and nonteachers. *Journal for the Education of the Gifted*, 43(2), 143-166. <https://doi.org/10.1177/0162353220912010>

²⁸ Warne, R. T. (2023). Tests of measurement invariance of three Wechsler intelligence tests in economically developing nations in South Asia and Sub-Saharan Africa. *Gifted and Talented International*, 38(2), 122-138. <https://doi.org/10.1080/15332276.2023.2245007>

²⁹ Burton, J. Z., & Warne, R. T. (2020). The neglected intelligence course: Needs and suggested solutions. *Teaching of Psychology*, 47(2), 130-140. <https://doi.org/10.1177/0098628320901381>

³⁰ Warne, R. T. (2017). Research on the academic benefits of the Advanced Placement program: Taking stock and looking forward. *SAGE Open*, 7(1), Article 2158244016682996. <https://doi.org/10.1177/2158244016682996>

³¹ Rambo-Hernandez, K. E., & Warne, R. T. (2015). Measuring the outliers: An introduction to out-of-level testing with high-achieving students. *Teaching Exceptional Children*, 47(4), 199-207. <https://doi.org/10.1177/0040059915569359>

³² Warne, R. T., Burton, J. Z., Gibbons, A., & Melendez, D. A. (2019). Stephen Jay Gould’s analysis of the Army Beta test in *The Mismeasure of Man*: Distortions and misconceptions regarding a pioneering mental test. *Journal of Intelligence*, 7(1), Article 6. <https://doi.org/10.3390/jintelligence7010006>

³³ Warne, R. T. (2020). Continental genetic ancestry source correlates with global cognitive ability score. *Mankind Quarterly*, 60(3), 400-422. <https://doi.org/10.46469/mq.2020.60.3.7>

³⁴ Warne, R. T., & Anderson, B. (2015). The Advanced Placement program's impact on academic achievement. *New Educational Foundations*, 4, 32-54. <http://www.newfoundations.com/NEFpubs/NEF4sum2015.pdf>

³⁵ Warne, R. T. (2020). *In the know: Debunking 35 myths about human intelligence*. Cambridge University Press. <https://doi.org/10.1017/9781108593298>

the *Journal for the Education of the Gifted*. In addition, I am the author of the acclaimed textbook *Statistics for the Social Sciences: A General Linear Model Approach* published by Cambridge University Press in December 2017, with the second edition published in December 2020. It is a textbook designed for undergraduate social science majors taking a one-semester introductory statistics course. My full Curriculum Vita is attached separately.

Given this training and publication record, I am confident to say that I am one of the nation's leading experts on intelligence, intelligence tests, and related topics. My research has won awards from the International Society for Intelligence Research, MENSA International, the National Association for Gifted Children, and Utah Valley University. For these reasons, I am often asked to review manuscripts about intelligence for scholarly journals and give interviews to journalists and others about intelligence.

B. Focus of my Research

As some of the articles cited in References 2-35 indicate, I am keenly interested in the intersection of diversity and intelligence. Some of my research has touched upon the causes and consequences of average differences in scores on academic, aptitude, and intelligence tests. As a result, I am quite familiar with Dr. Pesta's research on the same topic. Additionally, I am currently the author of the draft of a test which is designed to improve the measurement of intelligence in developing countries. I am profoundly aware of the issues surrounding measuring and interpreting the scores of individuals from diverse backgrounds and cultures. The years I have studied, researched, and advanced the study of human intelligence makes me amply qualified to discuss Dr. Pesta's research.

As I understand the issue, the Lasker et al. (2019) article caused a controversy that led to Cleveland State University terminating Dr. Pesta's employment. My careful consideration of the science related to the article shows that this termination was not due to any scientific inadequacies in the Lasker et al. (2019) article.

C. Terminology and Technical Background

In this report, I will use some technical terminology, which I define in this section. Where needed, I also provide context about a term to ensure that it is understood properly.

- a. *Intelligence* is, according to one widely accepted definition,³⁶ “. . . a very general mental capability that, among other things, involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly, and learn from experience. It is not mere book learning, a narrow academic skill, or test-taking smarts. Rather, it reflects a broader and deeper capability of comprehending our surroundings . . .”
- b. An *intelligence test* is any instrument designed by scientists to measure a person's overall cognitive ability. Intelligence tests take many different formats; any task that requires an examinee to use engage in cognitive effort to any extent will measure intelligence to some degree.³⁷ It is not necessary for a test's creators to call their test an “intelligence test” for a test to measure intelligence.³⁸
- c. *IQ* is the score produced by an intelligence test. Most IQs have been standardized to arbitrarily have an average of 100 and a standard deviation of 15. In this scale,

³⁶ Gottfredson, L. S. (1997). Mainstream science on intelligence: An editorial with 52 signatories, history, and bibliography. *Intelligence*, 24(1), 13-23. [https://doi.org/10.1016/S0160-2896\(97\)90011-8](https://doi.org/10.1016/S0160-2896(97)90011-8) The quote is from p. 13.

³⁷ Warne, *In the Know*, pp. 2-5, 31-34.

³⁸ Warne, *In the Know*, pp. 73-79.

slightly over two-thirds of the population has an IQ between 85 and 115, and about 95% of the population has an IQ between 70 and 130.³⁹

- d. A *racial or ethnic group* is an identifiable population of humans who are more closely related to one another than they are to people outside the group. Members of a racial or ethnic group often share a number of physical characteristics because of their higher degree of relatedness, but there is no trait that every member of a racial or ethnic possesses that no one outside of the group does.⁴⁰
- e. *Admixed individuals* are people whose ancestors in the recent evolutionary past originate from different racial or ethnic groups. The existence of admixed individuals does not invalidate the existence of their ancestors' racial and ethnic groups any more than the existence of purple paint invalidates the existence of the red and blue paint that were mixed to create the purple paint. However, admixed individuals show that the boundary between racial and ethnic groups is "fuzzy."⁴¹ But, again, this does not invalidate the groups any more than the existence of "purple" would invalidate the categories of "red" and "blue."
- f. The *environmental hypothesis* is the hypothesis that average differences in IQ among racial and ethnic groups are due solely to non-genetic factors. These non-genetic factors may be chemical,⁴² cultural,⁴³ socioeconomic,⁴⁴ and more. Some

³⁹ Warne, *In the Know*, pp. 7-9.

⁴⁰ Warne, *In the Know*, pp. 248-249; see also Sesardic, N. (2010). Race: A social destruction of a biological concept. *Biology & Philosophy*, 25, 143-162. <https://doi.org/10.1007/s10539-009-9193-7>

⁴¹ Warne, *In the Know*, p. 250.

⁴² E.g., differences in exposure to lead.

⁴³ E.g., differences in how much groups value formal education.

⁴⁴ E.g., differences in wealth and access to economic resources.

environmentalists have proposed specific non-genetic causes of group differences in IQ and related traits.^{45,46}

- g. An *environmentalist* is an adherent of the environmental hypothesis. Some environmentalists explicitly state that they do not know what the causes of average differences in intelligence among racial and ethnic groups are—but that they are not genetic.⁴⁷ What unites environmentalists is the denial that genetic differences across racial and ethnic groups is a cause of the observed IQ differences among groups.
- h. The *hereditarian hypothesis* is the hypothesis that average differences in IQ or intelligence across racial or ethnic groups are due, at least partially, to genetic differences among groups. This genetic variation may be the cause of 1% of the average differences in IQ across racial or ethnic groups, or it may be 100%. Both beliefs would be consistent with this view of the hereditarian hypothesis.
- i. A *hereditarian* is an adherent of the hereditarian hypothesis. Just as with environmentalists, there is a great deal of diversity of opinion among hereditarians.⁴⁸ A scientist who believes that 1% of the differences in IQ among racial or ethnic groups is due to genetics and a scientist who believes that 100% of the differences in IQ among groups are genetically caused would both be

⁴⁵ Nisbett, R. E. (2009). *Intelligence and how to get it: Why schools and cultures count*. W. W. Norton & Company.

⁴⁶ Nisbett, R. E., Aronson, J., Blair, C., Dickens, W., Flynn, J., Halpern, D. F., & Turkheimer, E. (2012). Intelligence: New findings and theoretical developments. *American Psychologist*, 67(2), 130-159.
<https://doi.org/10.1037/a0026699>

⁴⁷ E.g., Kaplan, J. M. (2015). Race, IQ, and the search for statistical signals associated with so-called “X”-factors: environments, racism, and the “hereditarian hypothesis.” *Biology & Philosophy*, 30(1), 1-17.
<https://doi.org/10.1007/s10539-014-9428-0>

⁴⁸ Rindermann, H., Becker, D., & Coyle, T. R. (2020). Survey of expert opinion on intelligence: Intelligence research, experts' background, controversial issues, and the media. *Intelligence*, 78, Article 101406.
<https://doi.org/10.1016/j.intell.2019.101406>

classified as hereditarians.⁴⁹ Some hereditarians⁵⁰ (including myself)^{51,52} do not believe that there is sufficient evidence to state the degree of influence that genes exert on IQ differences among racial or ethnic groups—but that the influence is greater than zero.

D. Scientific Background of the Lasker et al. (2019) Article

a. Brief Discussion of Intelligence Research

The study of intelligence is one of the oldest continuous research programs in all the social sciences. For over 150 years, scientists have studied intelligence,⁵³ and today, it is a thriving research program with connections to genetics,⁵⁴ neuroscience,⁵⁵ epidemiology,⁵⁶ education,^{57,58} organizational behavior,⁵⁹ economics,^{60,61} evolutionary biology,⁶² and more. Moreover, this area of research is extremely high in quality. Whereas some areas of psychology

⁴⁹ Warne, *In the Know*, p. 248.

⁵⁰ E.g., Herrnstein, R. J., & Murray, C. (1996). *The bell curve: Intelligence and class structure in American life* (2nd ed.). Free Press.

⁵¹ Warne, *In the Know*, p. 262.

⁵² Warne, Between-group mean differences in intelligence in the United States are >0% genetically caused, p. 493.

⁵³ Warne, *In the Know*, pp. 21-27.

⁵⁴ Davies, G., Armstrong, N., Bis, J. C., Bressler, J., Chouraki, V., Giddaluru, S., Hofer, E., Ibrahim-Verbaas, C. A., Kirin, M., Lahti, J., van der Lee, S. J., Le Hellard, S., Liu, T., Marioni, R. E., Oldmeadow, C., Postmus, I., Smith, A. V., Smith, J. A., Thalamuthu, A., Thomson, R., . . . & Deary, I. J. (2015). Genetic contributions to variation in general cognitive function: A meta-analysis of genome-wide association studies in the CHARGE consortium (N=53949). *Molecular Psychiatry*, 20, 183-192. <https://doi.org/10.1038/mp.2014.188>

⁵⁵ Haier, R. J. (2023). *The neuroscience of intelligence* (2nd ed.). Cambridge University Press.

⁵⁶ Beaver, K. M., Schwartz, J. A., Connolly, E. J., Said Al-Ghamdi, M., Kobeisy, A. N., Barnes, J. C., & Boutwell, B. (2016). Intelligence and early life mortality: Findings from a longitudinal sample of youth. *Death Studies*, 40(5), 298-304. <https://doi.org/10.1080/07481187.2015.1137994>

⁵⁷ Jensen, A. R. (1973/2012). *Educability and group differences*. Routledge.

⁵⁸ Warne, Five reasons to put the g back into giftedness.

⁵⁹ Wolfram, T. (2023). (Not just) intelligence stratifies the occupational hierarchy: Ranking 360 professions by IQ and non-cognitive traits. *Intelligence*, 98, Article 101755. <https://doi.org/10.1016/j.intell.2023.101755>

⁶⁰ Jones, G. (2016). *Hive mind: How your nation's IQ matters so much more than your own*. Stanford University Press.

⁶¹ Grinblatt, M., Keloharju, M., & Linnainmaa, J. T. (2012). IQ, trading behavior, and performance. *Journal of Financial Economics*, 104, 339-362. <https://doi.org/doi.org/10.1016/j.jfineco.2011.05.016>

⁶² Kuijpers, Y., Domínguez-Andrés, J., Bakker, O. I. B., Gupta, M. K., Grasshoff, M., Xu, C.-J., Joosten, L. A. B., Bertranpetit, J., Netea, M. G., & Li, Y. (2022). Evolutionary trajectories of complex traits in European populations of modern humans. *Frontiers in Genetics*, 13, Article 833190. <https://doi.org/10.3389/fgene.2022.833190>

experienced a “replication crisis” in the 2010s,^{63,64} journals that publish intelligence research tend to have extremely high rates of replicability.⁶⁵ Because of this lengthy, successful, and high-quality body of research, psychologists know more about intelligence than almost any other phenomenon in the discipline. Indeed, the replication crisis left intelligence research largely untouched.⁶⁶

While outsiders may argue that intelligence tests merely how well someone takes tests⁶⁷ or performs in school,⁶⁸ the interdisciplinary nature of intelligence research shows that this claim is not true. If the mental capacities needed to perform well on an intelligence test only mattered in the testing situation or in the schoolhouse, then intelligence research would be confined to the sciences of test development and educational psychology. Indeed, IQ is correlated with an extraordinarily wide variety of life outcomes. Intelligence is positively correlated with leadership attainment, good physical and mental health, longevity, and higher occupational status and job performance. Conversely, intelligence is negatively correlated with criminal behavior, divorce, and other undesirable life experiences.⁶⁹ Often, individual differences in intelligence are more important determinants of life outcomes than other psychological variables (such as personality).⁷⁰

b. Average IQ Differences Among Racial and Ethnic Groups

⁶³ Open Science Collaboration, (2015). Estimating the reproducibility of psychological science. *Science*, 349(6251), Article aac4716. <https://doi.org/10.1126/science.aac4716>

⁶⁴ Nelson, L. D., Simmons, J., & Simonsohn, U. (2018). Psychology's renaissance. *Annual Review of Psychology*, 69, 511-534. <https://doi.org/10.1146/annurev-psych-122216-011836>

⁶⁵ Schimmack, U. (2022, January 26). 2022 replicability rankings of psychology journals [blog post]. *Replicability-Index*. <https://replicationindex.com/2022/01/26/rr21/>

⁶⁶ Warne, *In the Know*, p. 278.

⁶⁷ E.g., Morris, C. G., & Maisto, A. A. (2016). *Understanding psychology* (11th ed.). Pearson Education, p. 251.

⁶⁸ E.g., Coon, D., & Mitterer, J. O. (2016). *Introduction to psychology: Gateways to mind and behavior* (14th ed.). Cengage Learning, p. 309.

⁶⁹ See Warne, *In the Know*, p. 198, for a longer list (including citations) of life outcomes that are associated with IQ.

⁷⁰ Zisman, C., & Ganzach, Y. (2022). The claim that personality is more important than intelligence in predicting important life outcomes has been greatly exaggerated. *Intelligence*, 92, Article 101631. <https://doi.org/10.1016/j.intell.2022.101631>

Dr. Pesta and his coauthors on the Lasker et al. (2019) article investigated one potential cause of the average difference in IQ scores among American racial and ethnic groups. Of the largest racial and ethnic groups in the United States, Asian Americans tend to have the highest average IQ, followed by European Americans, who usually obtain a higher average score than Hispanic Americans. Samples of African Americans often obtain the lowest average score of the large racial and ethnic groups in the United States. Both hereditarians and environmentalists acknowledge the existence of these average score gaps,^{71,72,73,74,75,76,77} and their existence is not controversial. Indeed, average differences among racial and ethnic groups in IQ is one of the most replicated and consistent findings in all the social sciences, with these average differences even being present in studies over 100 years ago.^{78,79,80,81} The controversy regarding average IQ or intelligence average differences among racial and ethnic groups is the cause of these differences—not the existence of the score gaps themselves.⁸²

⁷¹ Murray, C. (2021). *Facing reality: Two truths about race in America*. Encounter Books.

⁷² Hunt, E. (2011). *Human intelligence*. Cambridge University Press.

⁷³ Gottfredson, Mainstream science on intelligence.

⁷⁴ Neisser, U., Boodoo, G., Bouchard, T. J., Boykin, A. W., Brody, N., Ceci, S. J., Halpern, D. F., Loehlin, J. C., Perloff, R., Sternberg, R. J., & Urbina, S. (1996). Intelligence: Knowns and unknowns. *American Psychologist*, 51(2), 77-101. <https://doi.org/10.1037/0003-066X.51.2.77>

⁷⁵ Nisbett et al., Intelligence.

⁷⁶ Plucker, J. A., & Esping, A. (2014). *Intelligence 101*. Springer.

⁷⁷ Jensen, A. R. (1998). *The g factor: The science of mental ability*. Praeger.

⁷⁸ Morse, J. (1914). A comparison of white and colored children measured by the Binet scale of intelligence. *The Popular Science Monthly*, 84, 75-79.

⁷⁹ Sunne, D. (1917). A comparative study of white and negro children. *Journal of Applied Psychology*, 1(1), 71-83. <https://doi.org/10.1037/h0073489>

⁸⁰ Pressey, S. L., & Teter, G. F. (1919). Minor studies from the psychological laboratory of Indiana University. I. A comparison of colored and white children by means of a group scale of intelligence. *Journal of Applied Psychology*, 3, 277-282. <https://doi.org/10.1037/h0075831>

⁸¹ Derrick, S. M. (1920). A comparative study of the intelligence of seventy-five whites and fifty-five colored college students by the Stanford revision of the Binet-Simon scale. *Journal of Applied Psychology*, 4(4), 316-329. <https://doi.org/10.1037/h0071332>

⁸² Kaplan, R. M., & Saccuzzo, D. P. (2018). *Psychological testing: Principles, applications, and issues* (9th ed.). Wadsworth.

There is about a 15-point IQ difference between the average score of European Americans and African Americans,⁸³ although the difference sometimes varies slightly from study to study,^{84,85,86,87} depending on methodology and sampling procedure. For example, academic achievement tests tend to have smaller gaps than intelligence tests.^{88,89} While these differences are consistent, it is important to remember that these are average differences and not apply to every member of a racial or ethnic group. Every intelligence researcher acknowledges that there is a lot of overlap among groups.^{90,91} As a result, there are millions of European Americans in the United States who score lower than the average African American—and vice versa.

The IQ scale can be converted to a standard metric used throughout the social sciences called Cohen's d .⁹² When the 15-point gap between African and European Americans is converted to Cohen's d , the result is 1.0. A value of $d = 1.0$ is extremely large in the social sciences. To put it in perspective of daily life, the average difference in heights among adult American men and women is $d = 1.06$.⁹³ Using standard statistical methods, a social scientist has a 99% probability of detecting a $d = 1.0$ difference in averages with just 33 people per group. In

⁸³ Hunt, *Human Intelligence*.

⁸⁴ Murray, *Facing Reality*.

⁸⁵ Dickens, W. T., & Flynn, J. R. (2006). Black Americans reduce the racial IQ gap: Evidence from standardization samples. *Psychological Science*, 17(10), 913-920. <https://doi.org/10.1111/j.1467-9280.2006.01802.x>

⁸⁶ Roth, P. L., Bevier, C. A., Bobko, P., Switzer, F. S., III, & Tyler, P. (2001). Ethnic group difference in cognitive ability in employment and educational settings: A meta-analysis. *Personnel Psychology*, 54(2), 297-330. <https://doi.org/10.1111/j.1744-6570.2001.tb00094.x>

⁸⁷ Priest, R., Griebie, A., Zhou, Y., Tomeh, D., & Sackett, P. R. (in press). Stereotype lift and stereotype threat effects on subgroup mean differences for cognitive tests: A meta-analysis of adult samples. *Journal of Applied Psychology*. <https://doi.org/10.1037/apl0001185>

⁸⁸ Warne, Testing Spearman's hypothesis with Advanced Placement examination data.

⁸⁹ Jensen, *Educability and group differences*.

⁹⁰ Warne, *In the Know*, pp. 91, 187, 237, 247.

⁹¹ Jensen, *Educability and group differences*.

⁹² Warne, *In the Know*, pp. 17-19.

⁹³ Warne, R. T. (2021). *Statistics for the social sciences: A general linear model approach* (2nd ed.). Cambridge University Press, p. 193.

comparison, the average difference in creativity scores in people with and without attention deficit/hyperactivity disorder ($d = .35$)⁹⁴ requires 259 people per group to detect. Smaller differences—as are common in the social sciences—require even larger sample sizes. To detect the average income difference in adulthood of grade skippers and similar non-grade skippers ($d = .044$),⁹⁵ a scientist needs 16,293 people in each group.⁹⁶ Therefore, it is reasonable to say that a 15-point IQ difference between two groups is very easy to notice in daily life (almost as easy to notice as the difference between the average height of men and women) and extremely large in a statistical, scientific, and practical context. Indeed, it would take a willful commitment to ignorance *not* to notice such a large average difference between two groups.

An unavoidable consequence of the average difference in intelligence among racial and ethnic groups is that different groups experience different rates of life outcomes because of their differing IQ distributions. This is due to the relationship between intelligence and life outcomes described in subsection D(a). Most of the positive correlations between IQ and beneficial life outcomes at the individual level are found at the group level also. This means that groups with higher average IQs have higher rates of positive life outcomes and lower rates of negative or undesirable life outcomes.⁹⁷ Consequentially, discussing average IQ differences among racial and ethnic groups is a legitimate line of inquiry for anyone studying racial disparities in employment, health, education, and other life outcomes.

⁹⁴ Paek, S. H., Abdulla, A. M., & Cramond, B. (2016). A meta-analysis of the relationship between three common psychopathologies—ADHD, anxiety, and depression—and indicators of little-c creativity. *Gifted Child Quarterly*, 60(2), 117-133. <https://doi.org/10.1177/0016986216630600>

⁹⁵ Warne, Possible economic benefits of full-grade acceleration.

⁹⁶ These sample sizes are calculated with the program G*Power 3.1.9.7, using a one-tailed *t*-test of the difference between means of two independent samples. The Type I probability was set to $\alpha = .05$, and the statistical power ($1 - \beta$) was set to .99.

⁹⁷ Warne, *In the Know*, pp. 320-322.

Given the magnitude of the average differences in intelligence (and their practical importance), many scholars are understandably curious about the causes of these differences. Scientists have investigated the causes of the average differences in IQ among racial and ethnic groups for generations. Both hereditarians^{98,99} and environmentalists^{100,101,102} recognize that this is a legitimate area of scientific inquiry. Because of their research efforts, some hypothesized causes for the average differences in IQ among racial and ethnic groups have been disproven. For example, the gaps do not arise from test bias^{103,104,105}—a hypothesis refuted for so long that one team of experts called it “scientifically dead”¹⁰⁶ over 20 years ago.

Despite decades of research, there is no consensus regarding the exact causes of the average differences in intelligence among racial and ethnic groups. Neither the hereditary nor the environmental hypotheses have been unequivocally disproven, and intelligence experts can be found in both camps.¹⁰⁷ When a scientific question remains unanswered, it is legitimate—and desirable—to conduct empirical research to answer it. To argue otherwise is to be in favor of either censorship or ignorance (or both).

c. Logic of the Hereditary and Environmental Hypotheses

⁹⁸ Warne, National mean IQ estimates.

⁹⁹ Jensen, *The g factor*.

¹⁰⁰ Flynn, J. R. (2018). Academic freedom and race: You ought not to believe what you think may be true. *Journal of Criminal Justice*, 59, 127-131. <https://doi.org/10.1016/j.jcrimjus.2017.05.010>

¹⁰¹ Ceci, S., & Williams, W. M. (2009). Should scientists study race and IQ? Yes: The scientific truth must be pursued. *Nature*, 457, 788-789. <https://doi.org/10.1038/457788a>

¹⁰² Hunt, E., & Carlson, J. (2007). Considerations relating to the study of group differences in intelligence. *Perspectives on Psychological Science*, 2(2), 194-213. <https://doi.org/10.1111/j.1745-6916.2007.00037.x>

¹⁰³ Jensen, A. R. (1980). *Bias in mental testing*. The Free Press.

¹⁰⁴ Neisser et al., *Intelligence*.

¹⁰⁵ Warne, *In the Know*, pp. 90-104.

¹⁰⁶ Hunter, J. E., & Schmidt, F. L. (2000). Racial and gender bias in ability and achievement tests: Resolving the apparent paradox. *Psychology, Public Policy, and Law*, 6(1), 151-158. <https://doi.org/10.1037/1076-8971.6.1.151>
See page 151.

¹⁰⁷ Rindermann et al., Survey of expert opinion on intelligence.

Both the hereditarian and environmental hypotheses have logic behind them, and both are reasonable beliefs to hold *a priori*. The hereditarian hypothesis uses information about the genetic influence of intelligence on individuals and extrapolates it to groups. At the individual level, it is well established that there is a genetic influence on differences in IQ. The magnitude of the influence varies, with studies on young children generally showing a very low genetic influence and studies on adults showing a very high degree of genetic influence on IQ.¹⁰⁸ Every study, however, shows that there is at least some genetic influence on the individual differences in IQ, including studies on ethnic minorities¹⁰⁹ and individuals in developing nations.^{110,111} Likewise, every study has shown that individual differences in intelligence are not solely due to genetics. The environment matters, too.

A genetic influence on the individual differences in IQ is well established and accepted. A genetic influence on average group differences is much more controversial. Hereditarians claim that it is reasonable to believe that average group differences are the sum of individual differences and that the causes of differences at the individual and group level are the same.^{112,113,114} In recent years, some hereditarians have also made theoretical arguments based in evolutionary theory: it is widely accepted now that groups of early humans adapted to different environments, resulting in average differences in many physical traits in those people's modern

¹⁰⁸ Bouchard, T. J., Jr. (2014). Genes, evolution and intelligence. *Behavior Genetics*, 44(6), 549-577. <https://doi.org/10.1007/s10519-014-9646-x>

¹⁰⁹ Pesta, B. J., Kirkegaard, E. O. W., te Nijenhuis, J., Lasker, J., & Fuerst, J. G. R. (2020). Racial and ethnic group differences in the heritability of intelligence: A systematic review and meta-analysis. *Intelligence*, 78, Article 101408. <https://doi.org/10.1016/j.intell.2019.101408>

¹¹⁰ Hur, Y.-M., & Bates, T. (2019). Genetic and environmental influences on cognitive abilities in extreme poverty. *Twin Research and Human Genetics*, 22(5), 297-301. <https://doi.org/10.1017/thg.2019.92>

¹¹¹ Toto, H. S. A., Piffer, D., Khaleefa, O. H., Bader, R. A.-S. A.-T., Bakhiet, S. F. A., Lynn, R., & Essa, Y. A. S. (2019). A study of the heritability of intelligence in Sudan. *Journal of Biosocial Science*, 51(2), 307-311. <https://doi.org/10.1017/S0021932018000159>

¹¹² Jensen, *Educability and group differences*, p. xxviii.

¹¹³ Jensen, *The g factor*, p. 457.

¹¹⁴ Warne, *In the Know*, p. 262.

descendants.^{115,116,117} Hereditarians extrapolate from this finding to postulate that this local, recent evolutionary selection could also result in average differences across groups in psychological traits—including intelligence—because evolution acts on the brain as well as the rest of the body.^{118,119,120,121} In other words, evolution does not operate “from the neck down.” If the hereditarians’ (1) theory of the emergence of group differences from individual differences and (2) interpretation of evolutionary theory is correct, then a natural conclusion is that individual differences are the result of genetic and environmental influences—and so are group differences.

Environmentalists recognize—correctly—that the causes of group differences are not necessarily the same as the causes of individual differences.^{122,123} They state that the evidence is not strong enough to conclude that genes have any influence on average differences in intelligence among racial and ethnic groups^{124,125} or that the preponderance of evidence is in support of the environmental hypothesis.¹²⁶

¹¹⁵ Shi, H., Gazal, S., Kanai, M., Koch, E. M., Schoech, A. P., Siewert, K. M., Kim, S. S., Luo, Y., Amariuta, T., Huang, H., Okada, Y., Raychaudhuri, S., Sunyaev, S. R., & Price, A. L. (2021). Population-specific causal disease effect sizes in functionally important regions impacted by selection. *Nature Communications*, 12(1), Article 1098. <https://doi.org/10.1038/s41467-021-21286-1>

¹¹⁶ Piffer, D. (2021). Divergent selection on height and cognitive ability: evidence from both genetic distance (Fst) and polygenic scores. *OpenPsych*, Article 59. <https://doi.org/10.26775/OP.2021.04.03>

¹¹⁷ Nielsen, R., Akey, J. M., Jakobsson, M., Pritchard, J. K., Tishkoff, S., & Willerslev, E. (2017). Tracing the peopling of the world through genomics. *Nature*, 541, 302-310. <https://doi.org/10.1038/nature21347>

¹¹⁸ Winegard, B., Winegard, B., & Anomaly, J. (2020). Dodging Darwin: Race, evolution, and the hereditarian hypothesis. *Personality and Individual Differences*, 160, Article 109915. <https://doi.org/10.1016/j.paid.2020.109915>

¹¹⁹ Woodley of Menie, M. A., Younuskunju, S., Balan, B., & Piffer, D. (2017). Holocene selection for variants associated with general cognitive ability: Comparing ancient and modern genomes. *Twin Research and Human Genetics*, 20(4), 271-280. <https://doi.org/10.1017/thg.2017.37>

¹²⁰ Winegard, B., Winegard, B., & Boutwell, B. (2017). Human biological and psychological diversity. *Evolutionary Psychological Science*, 3(2), 159-180. <https://doi.org/10.1007/s40806-016-0081-5>

¹²¹ Warne, *In the Know*, pp. 261-262.

¹²² Neisser et al., *Intelligence*, p. 95.

¹²³ Warne, *In the Know*, pp. 250-251.

¹²⁴ Neisser et al., *Intelligence*.

¹²⁵ Nisbett et al., *Intelligence*.

¹²⁶ Nisbett, *Intelligence and how to get it*.

When evaluated solely on theory, the hereditarian view has the advantage of being more parsimonious and having a firm foundation in evolutionary biology, while the environmentalist hypothesis has fewer untested assumptions. These characteristics are strengths of each theory, and both theories are plausible. This is not a dispute that can be resolved by arguing about theory. Instead, it must be resolved through empirical data. While there are different ways to test both hypotheses,¹²⁷ one powerful method is an admixture study.

d. Logic of Admixture Studies

The Lasker et al. (2019) article reports the results of an admixture study. Admixture studies are used to infer that average group differences on a variable are related to genetic differences among groups. In an admixture study, scientists measure the proportion of ancestry that a sample of admixed individuals inherited from their ancestral racial or ethnic groups. This ancestry proportion is then correlated with an outcome variable. If the correlation is positive, then it indicates that average differences in the outcome variable between the ancestral racial and ethnic groups are likely genetically influenced. Admixture studies are common in medicine for identifying the likelihood that average group differences in a disease are influenced by genetics.^{128,129} The method is just as valid in psychology as it is in medicine.

In psychology, even prominent environmentalists acknowledge that admixture studies are an important and valuable methodology for testing the hereditarian hypothesis.^{130,131,132}

¹²⁷ Warne, Between-group mean differences in intelligence in the United States are >0% genetically caused.

¹²⁸ E.g., Cheng, C.-Y., Reich, D., Haiman, C. A., Tandon, A., Patterson, N., Selvin, E., Akylbekova, E. L., Brancati, F. L., Coresh, J., Boerwinkle, E., Altshuler, D., Taylor, H. A., Henderson, B. E., Wilson, J. G., & Kao, W. H. L. (2012). African ancestry and its correlation to type 2 diabetes in African Americans: A genetic admixture analysis in three U.S. Population cohorts. *PLoS ONE*, 7(3), Article e32840. <https://doi.org/10.1371/journal.pone.0032840>

¹²⁹ E.g., Flores, C., Ma, S.-F., Pino-Yanes, M., Wade, M. S., Pérez-Méndez, L., Kittles, R. A., Wang, D., Papaiahgari, S., Ford, J. G., Kumar, R., & Garcia, J. G. N. (2012). African Ancestry is associated with asthma risk in African Americans. *PLoS ONE*, 7(1), Article e26807. <https://doi.org/10.1371/journal.pone.0026807>

¹³⁰ Flynn, J. R. (1980). *Race, IQ, and Jensen*. Routledge & Kegan Paul.

¹³¹ Nisbett, *Intelligence and how to get it*.

¹³² Hunt & Carlson, Considerations relating to the study of group differences in intelligence.

Admixture studies on average IQ differences among racial and ethnic groups date back to at least the 1930s.¹³³ As technology has advanced to make estimates of ancestry proportions more accurate, psychologists often incorporate these methods to improve and update admixture studies on IQ. For example, in the 1970s, blood allele typing led to a flurry of admixture studies.^{134,135} Today, DNA tests—such as those commercially available via ancestry.com or 23andMe—are the preferred method of estimating ancestry proportions. These modern tests show that the average African American has about 10-25% of his or her ancestry from European populations.^{136,137,138,139} This European ancestry is widespread, even among African Americans who do not identify as multiracial.¹⁴⁰ Hispanic Americans have an even greater average percentage of European ancestry—65% in one major study.¹⁴¹ However, there is much greater variability in European ancestry among Hispanics than among African Americans, due to the differing histories of intermixing among the countries of Latin America, the Caribbean and

¹³³ Witty, P. A., & Jenkins, M. D. (1936). Intra-race testing and Negro intelligence. *The Journal of Psychology*, 1(1), 179-192.

¹³⁴ Rothhammer, F., & Llop, E. (1976). Amerindian descent and intellectual performance in Chilean university students. *Human Biology*, 48(3), 455-464. <http://www.jstor.org/stable/41462897>

¹³⁵ Scarr, S., Pakstis, A. J., Katz, S. H., & Barker, W. B. (1977). Absence of a relationship between degree of white ancestry and intellectual skills within a black population. *Human Genetics*, 39(1), 69-86. <https://doi.org/10.1007/BF00273154>

¹³⁶ Tishkoff, S. A., Reed, F. A., Friedlaender, F. R., Ehret, C., Ranciaro, A., Froment, A., Hirbo, J. B., Awomoyi, A. A., Bodo, J.-M., Doumbo, O., Ibrahim, M., Juma, A. T., Kotze, M. J., Lema, G., Moore, J. H., Mortensen, H., Nyambo, T. B., Omar, S. A., Powell, K., Pretorius, G. S., Smith, M. W., Thera, M. A., Wambebe, C., Weber, J. L., & Williams, S. M. (2009). The genetic structure and history of Africans and African Americans. *Science*, 324(5930), 1035-1044. <https://doi.org/10.1126/science.1172257>

¹³⁷ Flores et al., African Ancestry is associated with asthma risk in African Americans.

¹³⁸ Jin, W., Xu, S., Wang, H., Yu, Y., Shen, Y., Wu, B., & Jin, L. (2012). Genome-wide detection of natural selection in African Americans pre- and post-admixture. *Genome Research*, 22(3), 519-527. <https://doi.org/10.1101/gr.124784.111>

¹³⁹ Bryc, K., Durand, Eric Y., Macpherson, J. M., Reich, D., & Mountain, Joanna L. (2015). The genetic ancestry of African Americans, Latinos, and European Americans across the United States. *The American Journal of Human Genetics*, 96(1), 37-53. <https://doi.org/10.1016/j.ajhg.2014.11.010>

¹⁴⁰ Bryc et al., The genetic ancestry of African Americans, Latinos, and European Americans across the United States.

¹⁴¹ Bryc et al., The genetic ancestry of African Americans, Latinos, and European Americans across the United States, p. 43.

Iberia.¹⁴² In contrast, European Americans who do not identify as multiracial rarely have a nontrivial percentage of non-European ancestry.¹⁴³ In other words, African Americans and Hispanic Americans are admixed populations. European Americans are almost completely non-admixed individuals.

The status of African Americans and Hispanic Americans as admixed populations makes admixture studies on these groups a powerful methodology for testing the hereditarian hypothesis. This is because—after the initial generation of interracial mating—the percentage of European ancestry within an admixed population will vary at random,¹⁴⁴ even among siblings.¹⁴⁵ However, most African Americans and Hispanics are not aware of their exact proportions of ancestry, and these proportions were obtained randomly at conception. These facts make it extremely likely that differences in a trait—like intelligence or IQ—can be caused by any within-group variations in environmental conditions. Thus, a correlation between the proportion of a group’s ancestry and another variable (like IQ) is extremely likely to be a causal relationship.

E. Analysis of the Lasker et al. (2019) Article

a. Summary of the Article

¹⁴² Adhikari, K., Chacón-Duque, J. C., Mendoza-Revilla, J., Fuentes-Guajardo, M., & Ruiz-Linares, A. (2017). The genetic diversity of the Americas. *Annual Review of Genomics and Human Genetics*, 18, 277-296. <https://doi.org/10.1146/annurev-genom-083115-022331>

¹⁴³ Bryc et al., The genetic ancestry of African Americans, Latinos, and European Americans across the United States.

¹⁴⁴ When a child of two parents who are descended from different racial or ethnic groups is born, he or she inherits 50% of the DNA from each parent. After that initial admixture, any later descendants inherit 50% of their parents’ DNA. However, because of the random process by which some genes are passed on, there is slight variations in the percentage of ancestry from the different ancestral racial and ethnic groups will develop. This variation will increase with each generation—especially if additional admixture events (e.g., interracial marriages) occur in later generations.

¹⁴⁵ Visscher, P. M., Medland, S. E., Ferreira, M. A. R., Morley, K. I., Zhu, G., Cornes, B. K., Montgomery, G. W., & Martin, N. G. (2006). Assumption-free estimation of heritability from genome-wide identity-by-descent sharing between full siblings. *PLOS Genetics*, 2(3), Article e41. <https://doi.org/10.1371/journal.pgen.0020041>

Lasker et al.'s (2019) admixture study conducted on a sample of 7,273 adolescents with European and/or African ancestry in the Philadelphia area. The authors found that the European American individuals scored 14.76 IQ points higher than the African American individuals in the sample.¹⁴⁶ Lasker et al. identified the proportion of European and African ancestry from each sample member and correlated this value with an IQ score derived from a battery of neuropsychological tests that the research participants took. The results indicated a positive relationship between the proportion of European ancestry and IQ score ($r = .411$ in the full sample),¹⁴⁷ indicating support for the hereditarian hypothesis. Even after controlling for skin color, self-identified race or ethnicity, and socioeconomic status (as measured by the parents' education), the relationship between European ancestry and IQ remained. This is exactly what the hereditarian hypothesis would predict.

Beyond the basic admixture design, the authors conducted additional analyses: They calculated polygenic scores (i.e., variables calculated from DNA that predict a person's educational attainment as in adulthood; this has been shown to also be a predictor of IQ).¹⁴⁸ The authors found that the polygenic scores positively correlated with IQ in both European Americans and African Americans. However, the relationship between the polygenic scores and IQ was only about half as strong in African Americans as in European Americans.¹⁴⁹ This is a common and expected finding that is a result of the polygenic score formula being derived from

¹⁴⁶ Lasker et al., Global ancestry and cognitive ability, p. 438.

¹⁴⁷ Lasker et al., Global ancestry and cognitive ability, p. 439.

¹⁴⁸ Plomin, R., & von Stumm, S. (2018). The new genetics of intelligence. *Nature Reviews Genetics*, 19(3), 148-159. <https://doi.org/10.1038/nrg.2017.104>

¹⁴⁹ Lasker et al., Global ancestry and cognitive ability, pp. 444-445.

data from a population that is predominantly of European ancestry.^{150,151} Lasker et al. (2019) also calculated an average polygenic score for each group and found that European Americans had the highest average polygenic score, African Americans had the lowest average polygenic score, and biracial individuals had an average polygenic score that was between the other two groups' average.¹⁵² This result is consistent with the prediction of the hereditarian hypothesis and is not due to an effect of the polygenic score merely indexing a person's ancestry.¹⁵³ Using the results from these, Lasker et al. (2019) calculated that 23% of the average difference in average IQs between African Americans and European Americans is due to known DNA variants that were used to calculate the polygenic scores.¹⁵⁴

The authors of the Lasker et al. (2019) article also conducted a path analysis in an attempt to model direct and indirect effects that European ancestry could have on the participants' IQ. They found that most of the impact of European ancestry on IQ was via a direct impact or mediated through the polygenic score. Skin color was not a mediator at all, indicating that the results could not be due to a within-race discrimination effect among African Americans.¹⁵⁵

Finally, Lasker and his colleagues conducted a test of correlated vectors¹⁵⁶ to examine whether the subtests' *g* loadings (which is a measure of the degree that a test measures general intelligence) also (1) were more genetically influenced, (2) had stronger relationships with

¹⁵⁰ Domingue, B. W., Belsky, D. W., Conley, D., Harris, K. M., & Boardman, J. D. (2015). Polygenic influence on educational attainment: New evidence from the National Longitudinal Study of Adolescent to Adult Health. *AERA Open*, 1(3), 1-13. <https://doi.org/10.1177/2332858415599972>

¹⁵¹ I have discussed some of the practical consequences of this weaker correlation in Warne, R. T. (2021). Are you ready for the genetic revolution in education? *Phi Delta Kappan*, 103(2), 34-39. <https://doi.org/10.1177/00317217211051142>

¹⁵² Lasker et al., Global ancestry and cognitive ability, pp. 444-445.

¹⁵³ Lasker et al., Global ancestry and cognitive ability, pp. 446-447.

¹⁵⁴ Lasker et al., Global ancestry and cognitive ability, pp. 448.

¹⁵⁵ Lasker et al., Global ancestry and cognitive ability, pp. 448-449.

¹⁵⁶ This is a well-established methodology. For its introduction, see Jensen, A. R. (1980). Précis of bias in mental testing. *Behavioral and Brain Sciences*, 3(3), 325-333. <https://doi.org/10.1017/S0140525X00005161>

polygenic scores, and (3) had a larger difference in mean scores between African Americans and European Americans. The results indicated that the relationships between the subtests' g loadings and the other variables were all positive,¹⁵⁷ which is in accordance with the predictions from the hereditarian hypothesis. To reduce the likelihood that this finding was not a statistical false positive, they conducted a test of measurement invariance^{158,159} on the intelligence data from both European American and African American examinees and found that the results were likely not due to a false positive. A competing explanation that the environmental hypothesis would predict—that the differences in average scores across racial groups could be explained via differences in socioeconomic status—was not supported.¹⁶⁰

b. Professional Judgement of the Article

I read the Lasker et al. (2019) shortly after it was published, and I found it good enough at the time to cite favorably in my scholarly work soon after.^{161,162} To prepare this report, I reread the article carefully in search of any flaws that would justify sanctions or punishments for any of the authors. If anything, closer scrutiny has improved my opinion of the Lasker et al. (2019) article. My professional opinion today is that the article is a strong piece of research and that the authors should be commended for their work—not punished. Without reservation, I can state that the Lasker et al. (2019) article is not only an extremely good admixture study; it is one of the best studies to test the hereditarian and environmental hypotheses to ever be published.

¹⁵⁷ Lasker et al., Global ancestry and cognitive ability, pp. 449-450.

¹⁵⁸ For an explanation of the value of conducting a test of measurement invariance to accompany the method of correlated vectors, see Lubke, G. H., Dolan, C. V., & Kelderman, H. (2001). Investigating group differences on cognitive tests using Spearman's hypothesis: An evaluation of Jensen's method. *Multivariate Behavioral Research*, 36(3), 299-324. <https://doi.org/10.1207/s15327906299-324>

¹⁵⁹ Lubke, G. H., Dolan, C. V., Kelderman, H., & Mellenbergh, G. J. (2003). On the relationship between sources of within- and between-group differences and measurement invariance in the common factor model. *Intelligence*, 31(6), 543-566. [https://doi.org/10.1016/S0160-2896\(03\)00051-5](https://doi.org/10.1016/S0160-2896(03)00051-5)

¹⁶⁰ Lasker et al., Global ancestry and cognitive ability, pp. 450.

¹⁶¹ Warne, *In the Know*.

¹⁶² Warne, Between-group mean differences in intelligence in the United States are >0% genetically caused.

The Lasker et al. (2019) article was not the first admixture study of IQ to use DNA-based methods of estimating ancestry proportions.^{163,164,165} However, it has the largest sample size to date of any admixture study of IQ, and the method of discerning ancestry and the measure of IQ far exceeds my own study on the topic.¹⁶⁶ There are other strengths of the study, including the effort to disentangle self-identified race with genetic ancestry. The multiple analyses are also impressive because each of them gives the data opportunities to disprove the hereditarian hypothesis—but every time the data supported it instead. The study is one of the strongest tests of the hereditarian hypothesis and should be seen as a landmark study that reduces the uncertainty around a controversial research question.

However, the study is not perfect. I do not like that the measure of socioeconomic status consists solely of the parents' education, and the sample is still young enough that some individuals' IQs may not have stabilized. The sample is all from the same region of the country, which makes me wonder how generalizable the findings are. But no scientific study is perfect, and these issues were all out of the control of the authors of the Lasker et al. (2019) article. I believe that the Lasker et al. (2019) study is the best study to date to test the hereditarian hypothesis. Five years later, there has been no attempt to overturn its findings, and no new admixture studies have been published that contradict it. If its findings continue to stand, then it would be an important step towards resolving the question of whether average differences in

¹⁶³ Warne, Continental genetic ancestry source correlates with global cognitive ability score.

¹⁶⁴ Kirkegaard, E. O. W., Woodley of Menie, M. A., Williams, R. L., Fuerst, J., & Meisenberg, G. (2019). Biogeographic ancestry, cognitive ability and socioeconomic outcomes. *Psych*, 1(1), 1-25. <https://doi.org/10.3390/Psychology1010001>

¹⁶⁵ Hu, M., Lasker, J., Kirkegaard, E. O. W., & Fuerst, J. G. R. (2019). Filling in the gaps: The association between intelligence and both color and parent-reported ancestry in the National Longitudinal Survey of Youth 1997. *Psych*, 1, 240-261. <https://doi.org/10.3390/psych1010017>

¹⁶⁶ Warne, Continental genetic ancestry source correlates with global cognitive ability score.

intelligence between racial and ethnic groups within the United States have a partial genetic cause.

c. Context of the Controversy surrounding the Lasker et al. (2019)

The Lasker et al. (2019) article touched off a firestorm that eventually led to Dr. Pesta's dismissal from employment. As an outside observer, I am dismayed by the controversy, but not surprised. Intelligence research has been embroiled in controversies for 100 years. For example, in the 1920s, a government report on intelligence tests administered to recruits during World War I showed average differences between native-born Americans and recent immigrants, between racial and ethnic groups, and among residents of different states and regions of the country.^{167,168} This caused a major controversy in the press and academia at the time.¹⁶⁹ Likewise, in 1922, journalist Walter Lippman publicly attacked intelligence tests in a series of widely read articles in *The Atlantic*. He argued that the tests were an elitist "engine of cruelty" that restricted people who scored low on the tests from opportunities.¹⁷⁰ Lippman's writings dealt a public relations blow to the science of psychology.¹⁷¹ It seems like the field of intelligence research has been involved in some sort of controversy since then.

One of the most common reason intelligence research becomes controversial is due to findings regarding average differences in intelligence among racial and ethnic groups.¹⁷² Race is often a taboo topic. There are a variety of reasons for this, but one of the most relevant is that a

¹⁶⁷ Alexander, H. B. (1922). A comparison of the ranks of American states in Army Alpha and in social-economic status. *School & Society*, 16(405), 388-392.

¹⁶⁸ Yerkes, R. M. (1921). *Psychological examining in the United States army*. Government Printing Office.

¹⁶⁹ Davidson, P. E. (1923). The social significance of the army intelligence findings. *The Scientific Monthly*, 16, 184-193. <http://www.jstor.org/stable/6339>

¹⁷⁰ Lippman, W. (1976). The abuse of the tests. In N. J. Block & G. Dworkin (Eds.), *The IQ controversy* (pp. 18-20). Pantheon Books.

¹⁷¹ Minton, H. L. (1988). *Lewis M. Terman: Pioneer in psychological testing*. New York University Press.

¹⁷² Carl, N., & Woodley of Menie, M. A. (2019). A scientometric analysis of controversies in the field of intelligence research. *Intelligence*, 77, Article 101397. <https://doi.org/10.1016/j.intell.2019.101397>

large proportion of academics have a deeply held belief called *equalitarianism*, which one social psychologist defined as, “. . . a quasi-religious commitment to obtain equal outcomes for all groups, or at least for the several groups that are most sacred to the equalitarians.”¹⁷³

Equalitarianism can take many different forms. For example, the belief that all disparities of group outcomes must be due to “systemic racism” is an equalitarian belief because it implies that if there were no racism, the equal potential of all groups would be manifested. Another example of equalitarianism is a rejection of any evolutionary theory that would result in important differences genetic differences emerging among racial or ethnic groups.¹⁷⁴ Equalitarianism is, for some people, a sacred value that they will fervently defend against any threats.^{175,176}

Many of the controversies in intelligence research arise because a scientist has produced findings that show a race difference in intelligence exists and may be intransigent—which is a gross violation of equalitarian beliefs and values.¹⁷⁷ Some intelligence researchers who have been the target of equalitarian backlashes have documented their experiences.^{178,179,180} As difficult (and sometimes devastating) as a backlash can be for an individual, the controversies have much worse effects on society and science as a whole. The consequences are a chilled

¹⁷³ Haidt, J. (2020). Tribalism, forbidden baserates, and the telos of social science. *Psychological Inquiry*, 31(1), 53-56. <https://doi.org/10.1080/1047840X.2020.1722602> See p. 54.

¹⁷⁴ Winegard, B., Winegard, B., & Anomaly, J. (2020). Dodging Darwin: Race, evolution, and the hereditarian hypothesis. *Personality and Individual Differences*, 160, Article 109915. <https://doi.org/10.1016/j.paid.2020.109915>

¹⁷⁵ Haidt, J. (2012). *The righteous mind: Why good people are divided by politics and religion*. Pantheon Books.

¹⁷⁶ Haidt, Tribalism, forbidden baserates, and the telos of social science.

¹⁷⁷ Carl & Woodley of Menie, A scienometric analysis of controversies in the field of intelligence research.

¹⁷⁸ Gottfredson, L. S. (2010). Lessons in academic freedom as lived experience. *Personality and Individual Differences*, 49(4), 272-280. <https://doi.org/10.1016/j.paid.2010.01.001>

¹⁷⁹ Warne, R. T. (2023). Censorship in an educational society: A case study of the National Association for Gifted Children. In C. L. Frisby, R. E. Redding, W. T. O'Donohue, & S. O. Lilienfeld (Eds.), *Ideological and political bias in psychology: Nature, scope, and solutions* (pp. 461-489). Springer International Publishing. https://doi.org/10.1007/978-3-031-29148-7_17

¹⁸⁰ Jensen, A. R. (1972). Jensen on Hirsch on “jensenism.” *Educational Researcher*, 1(6), 15-16. <https://doi.org/10.3102/0013189x001006015>

research climate full of self-censorship,¹⁸¹ restricted access to datasets,¹⁸² severely reduced funding to investigate controversial research questions,¹⁸³ and other circumstances that stifle free inquiry. Thus, one of the major reasons that it is difficult to conduct research into the causes of average differences across consequences of the IQ differences is the controversy itself.

The reach of this taboo extends beyond psychology. Even the “hard sciences,” such as medicine, biology, and genetics, must deal with similar taboos against research that touches on race and threatens equalitarian morals. Just last month, scientists on social media claimed that a newly published population genetics study¹⁸⁴ was “potentially harmful”¹⁸⁵ with “downstream consequences.”¹⁸⁶ There were even calls to retract the paper.^{187,188} What was so inflammatory? A single image (likely inscrutable to non-scientists) that critics worried could lead people to draw a conclusion that there was a relationship between genetic ancestry and racial or ethnic group membership.¹⁸⁹ The fact that almost 88% of the sample’s genetic ancestry matched their self-identified race or ethnicity¹⁹⁰ shows that the two concepts *are* related, albeit imperfectly. In other words, those calling for a retraction of the article were afraid that people would come to a correct conclusion.

¹⁸¹ Clark, C. J., Jussim, L., Frey, K., Stevens, S. T., al-Gharbi, M., Aquino, K., Bailey, J. M., Barbaro, N., Baumeister, R. F., Bleske-Rechek, A., Buss, D., Ceci, S., Del Giudice, M., Ditto, P. H., Forgas, J. P., Geary, D. C., Geher, G., Haider, S., Honeycutt, N., Joshi, H., . . . & von Hippel, W. (2023). Prosocial motives underlie scientific censorship by scientists: A perspective and research agenda. *Proceedings of the National Academy of Sciences*, 120(48), Article e2301642120. <https://doi.org/10.1073/pnas.2301642120>

¹⁸² Lee, J. (2022, October 19). Don’t even go there. *City Journal*. <https://www.city-journal.org/article/dont-even-go-there>

¹⁸³ Gottfredson, Lessons in academic freedom as lived experience.

¹⁸⁴ The All of Us Research Program Genomics Investigators. (2024). Genomic data in the All of Us Research Program. *Nature*. <https://doi.org/10.1038/s41586-023-06957-x>

¹⁸⁵ <https://x.com/jkpritch/status/1759769448347759054?s=20>

¹⁸⁶ https://x.com/Graham_Coop/status/1760068137029193856?s=20

¹⁸⁷ <https://twitter.com/mbeisen/status/1759817187160715722>

¹⁸⁸ <https://twitter.com/mbeisen/status/1759952812224495734>

¹⁸⁹ Kaiser, J. (2024, February 23). Huge genome study confronted by concerns over race analysis. *Science*. <https://doi.org/10.1126/science.zx9c32i>

¹⁹⁰ The All of Us Research Program Genomics Investigators, Genomic data in the All of Us Research Program, Methods section, p. 3.

The problem with the controversies surrounding the scientific study of race is that it keeps society in ignorance so that the moral sensibilities of a subpopulation can be preserved. But ignorance is not bliss. Because scientists have not been able to investigate the hereditarian hypothesis freely, the controversy regarding the origins of average differences in IQ across racial and ethnic groups continues to fester. This leaves society unable to devise effective policies to deal with the consequences of those differences.¹⁹¹ It also leaves a hole in the research knowledge that extremists can fill—and they will not be as careful with the data and facts as a well-trained scientist like Dr. Pesta would be.¹⁹²

Ironically, those who oppose research into race (including the hereditarian hypothesis) create more negative consequences than the researchers do. The publication of the figure in a population genetics study last month resulted a lot of worrying about harmful consequences—but no one ever said what those consequences would be. This is typical; vague claims of unspecified “harm” are common among people who oppose scholarly research related to race¹⁹³—including the hereditarian hypothesis.^{194,195} However, humans often misjudge the risk of harm from different activities,¹⁹⁶ and this is true for the supposed negative consequences into the hereditarian hypothesis.^{197,198,199} Indeed, no one has *ever* been able to give an example of

¹⁹¹ Warne, *In the Know*, pp. 293.

¹⁹² Warne, *In the Know*, pp. 293-294.

¹⁹³ For example, see Warne, Censorship in an educational society.

¹⁹⁴ Turkheimer, E. (1990). Consensus and controversy about IQ [Review of the book *The IQ controversy: The media and public policy* by M. Snyderman & S. Rothman]. *Contemporary Psychology*, 35(5), 428-430, p. 430.

¹⁹⁵ Sternberg, R. J. (2005). There are no public-policy implications: A reply to Rushton and Jensen (2005). *Psychology, Public Policy, and Law*, 11(2), 295-301. <https://doi.org/10.1037/1076-8971.11.2.295>

¹⁹⁶ Hunt, E., & Carlson, J. (2007). Considerations relating to the study of group differences in intelligence. *Perspectives on Psychological Science*, 2(2), 194-213. <https://doi.org/10.1111/j.1745-6916.2007.00037.x>

¹⁹⁷ Fancher, R. E. (1985). *The intelligence men: Makers of the IQ controversy*. W. W. Norton & Company.

¹⁹⁸ Rushton, J. P. (1997). Race, intelligence, and the brain: The errors and omissions of the “revised” edition of S. J. Gould's *The Mismeasure of Man* (1996). *Personality and Individual Differences*, 23(1), 169-180. [https://doi.org/10.1016/S0191-8869\(97\)80984-1](https://doi.org/10.1016/S0191-8869(97)80984-1)

¹⁹⁹ Snyderman, M., & Herrnstein, R. J. (1983). Intelligence tests and the Immigration Act of 1924. *American Psychologist*, 38(9), 986-995. <https://doi.org/10.1037/0003-066x.38.9.986>

concrete, real-world injury or economic harm that has occurred because of a study that supported the hereditarian hypothesis. In contrast, those opposed to hereditarian research have physically assaulted hereditarians, caused them to lose their jobs, engaged in violent protest, and limited academic freedom.^{200,201} Real harm outweighs hypothetical harm. Censorship, thought policing, and sanctioning people for their research findings is real harm, and it is morally reprehensible and probably illegal when a state actor engages in it.

Therefore, I am not surprised that the Lasker et al. (2019) article was controversial, nor am I surprised that people called for consequences for the authors. But labeling a study as “controversial” is not sufficient grounds to punish an author for publishing an article. The opponents of the Lasker et al. (2019) study were worried about the harm it would cause. Ironically, by causing Dr. Pesta to lose his job, they caused far more harm the Lasker et al. (2019) study ever did.

F. Final Statement

I am willing to testify regarding all of these issues under oath in any legal proceedings. I am not being compensated for preparing this document. If I am asked to testify in any legal proceedings regarding Dr. Pesta’s employment, I will not be compensated beyond any travel expenses that may arise.

I have no conflicts of interest to report regarding these issues.



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March 14, 2024

²⁰⁰ Warne, *In the Know*, p. 290

²⁰¹ Carl & Woodley of Menie, A scientometric analysis of controversies in the field of intelligence research.